

BARTHA, Zoltan, dr. (Budapest, VIII., Kerepesi ut 17.); SZOR, Peter, dr.  
(Budapest, VIII., Kerepesi ut 17.)

Determination of modulus of shear in rubber. Acta chimica Hung  
33 no.3:359-379 '62.

1. Research Institute of Rubber Industry.

BARTHA, Zoltan; KARLINSZKY, Laszlo; SZOR, Peter

Formation mechanism of porous rubber materials. I. (To be contd.)  
Magy kem folyoir 68 no.2:65-71 F '62.

1. Gumiipari Kutato Intezet, Budapest.

BARTHA, Zoltan; KARLINSZKY, Laszlo; SZOR, Peter

Formation mechanism of porous rubber materials. II. Magyar  
folyoir 68 no.2:71-77 F '62.

1. Gumiipari Kutato Intezet, Budapest.

CA

The absorption of gelatin-dye phosphors. P. Fröhlich and P. Sauer. *Acta Univ. Szeged, Chem. et Phys.* 2, 017 (1948) (in German). The absorption spectrum of Na fluorescein showed two maxima at 480 and 495 mμ. The spectral distribution and the form of absorption curves of its gelatin-dye phosphors were the same as in aq. solns.; thus the absorbing ions or ion groups are unchanged. The absorption coeffs. of all gelatin dye solids are functions of the concns. The thickness of plates and cones have certain effects. The reflection const. seemed to be independent of λ. István Fényi

CA

3

The dependence of the emission of gelatin dyes on the concentration. P. Stor., *Acta Univ. Szeged., Chem. et Phys.* 2, 107-117 (1950) (in English).—Expts. with gelatin plates with Na fluorescein 0.15 mm. thick proved that the emission max. of gelatin dyes shift toward longer wave lengths with increase in dye concn. There exist optimal concns. but the emission bands calcd. in unit concn. are found below each other. The concn. has an influence on emission as well as on absorption. Istvan Fényi

CA

3

The relationship between the absorption and emission of the alcoholic solution of Acridine Orange NO. P. Szor (Univ. Szeged, Hung.), *Acta Univ. Szeged., Chem. II Phys.* 2, 249-55(1950)(in English).—Investigations were carried out to det. the extent to which the 2 tautomer forms of Acridine Orange NO participate in the establishment of fluorescence phenomena. The 400 ml soln. of the dye contg. 0.112 and 0.11 mg./l. was added to a neutral medium. Maxima of absorption bands were 418, 424, and 430 mμ for bands I, II, and III, resp.; the corresponding  $\lambda$  values were 1.2, 0.75, and 0.91. When the dye soln. contained  $1 \times 10^{-3}$  to  $1.0 \text{ N}$  HCl and 0.132 mg./l. dye, the max. values of band I decreased with increasing HCl concn., whereas the maxima of bands II and III increased. When the HCl concn. reached the ratio of 1.6 mols. HCl to each dye mol., absorption values scarcely varied. This seems to prove that if there are 1-2 mols. HCl for each dye mol., then tautomer A exists to a dominating extent and further mols. of HCl have no effect on absorption, or on the equil. of the tautomeric dyes. When NaOH (up to  $1 \times 10^{-3}$  to  $1 \times 10^{-2} \text{ N}$ ) was added to the soln. contg. 0.132 g./l. dye, band I was predominant. When the absorption bands ranging between 440 and 430 mμ were observed in an alk. medium, a divergence was found between analytical data and actually measured values. The same difference was noted in neutral solns. as well, but was not observed in acid media. This seems to show that with the addn. of alkali a new max. develops at the boundary of the ultraviolet and visible spectrum. The emission spectra of neutral, acid, and alk. solns. of the dye were also examd., and the comparison of the respective emission bands proved that the fluorescence emission is caused by one of the tautomeric forms.

István Finály

CA

**The self-absorption of fluorescent dye solutions.** P. Fröhlich and P. Szegő (Univ. Szeged, Hung.). *Acta Univ. Szeged, Chem. et Phys.* 3, 16 (1959) in English. —A method of calcn. is elaborated by which the emission band which does not contain the self-absorption effect can be calcd. on the basis of the emission data. When an EtOH soln. contg. 0.132 g. l. acridine orange was studied at various vessel widths, the intensity of the emission ranging between 547 and 612 mμ changed proportionally with the width of the vessel. In the section, however, where the absorption was very intense, the intensities hardly diverged, showing that the emission is influenced by self-absorption. Similar results were obtained with solns. contg. 0.351 and 0.0096 g. l. dye. These showed distinct max.; their positions shifted, depending on concn., towards red. If on measuring the fluorescence emission, the direction of the exciting light and that of the observation are perpendicular, then the intensity of the emission, taking the self-absorption into account, can be calcd. according to  $I_e = I_0 / (1 - e^{-\alpha t})$  where  $I_0$  denotes the intensity of the emission on subtraction of self-absorption,  $I$  the intensity of the emission,  $\alpha$  the absorption coeff., and  $t$  the width of the vessel. I. F.

GABOR, M.; SCULTEY, S.; SZORADY, I.

Inhibitory effects of hematoxylin on histamine. Kiserletes orvostud.  
3 no.6:432-435 1951. (CIML 21:4)

1. Doctors. 2. Pharmaceutic Institute, Szeged Medical University.

GABOR, M.; SZORADY, I.

The effect of hematoxylin on experimental mustard oil inflammation.  
Acta physiol. hung. 3 no.2:405-407 1952. (CLML 24:3)

1. Of the Institute of Pharmacology of Szeged University.

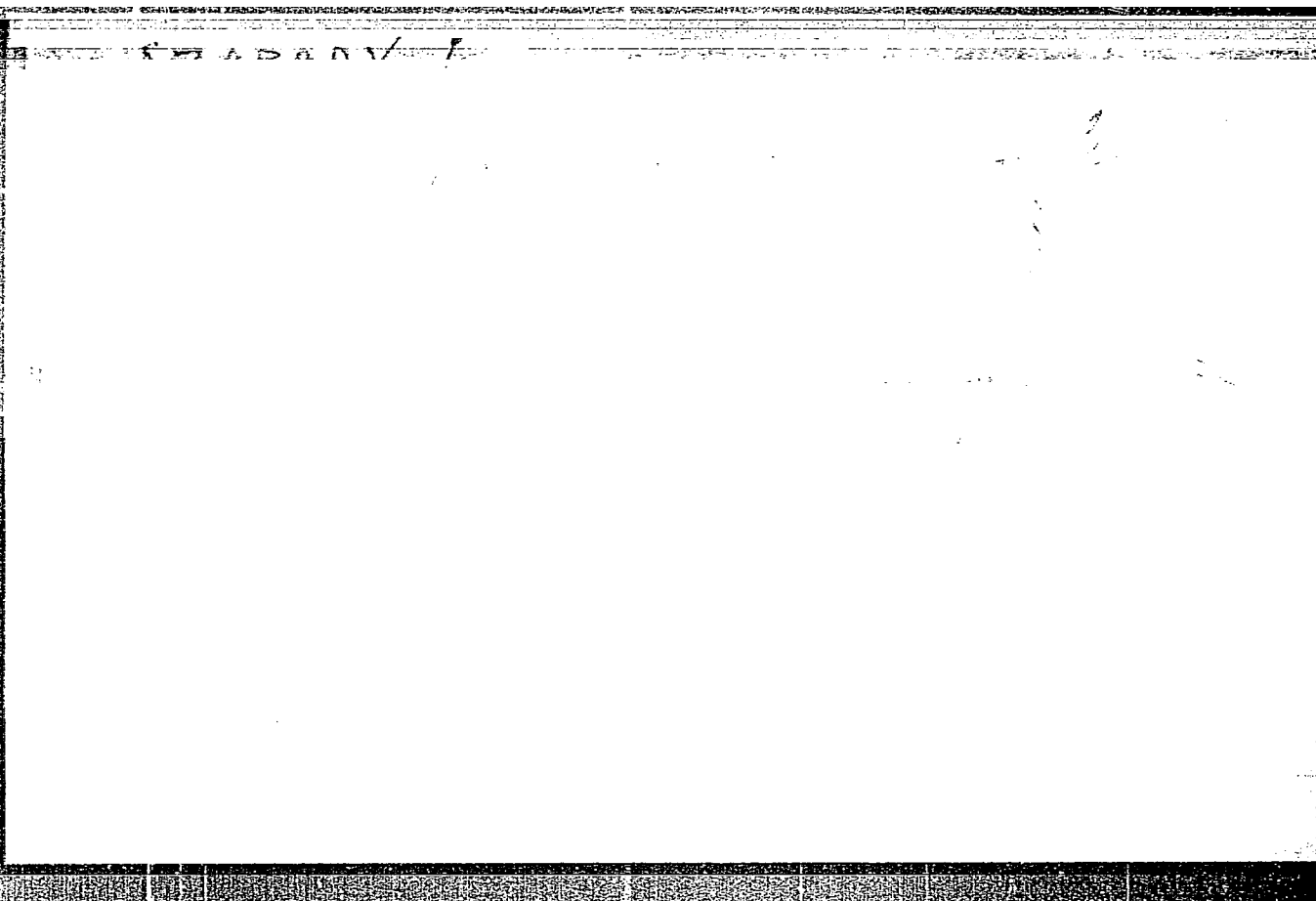
GABOR, M.;SZORADY, I.;DIRNER, Z.

The inhibiting effect of the members of the haematoxylin group  
on the action of histidine-decarboxylase. Acta physiol. hung. 3 no.  
3-4:595-600 1952. (GIML 24:5)

1. Of the Institute of Pharmacology of Szeged University.

"APPROVED FOR RELEASE: 08/31/2001

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CIA-RDP86-00513R001754530001-5"

KOLTAY, Miklos, dr.,; SZORADY, Istvan, dr.

Importance of tetracycline in pediatrics. Orv. hetil. 96 no.  
45:1234-1239 6 Nov 55.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika-jának (igazgató:  
Waltner Karoly dr. egyet. tanár) közleménye.

(PEDIATRIC DISEASES, therapy,  
tetracycline)

(TETRACYCLINE, therapeutic use,  
pediatric dis.)

GABOR, Miklos; SZORADY, Istvan; SIPOS, Karoly

Effects of drugs on changes in capillary permeability caused by thermo-stimulation. Kiserletes orvostud. 8 no.2:121-126 March 56.

1. Szegedi Orvostudományi Egyetem Gyógyszertani Intézete,  
Gyermekek és Bor- és Nemibeteg Klinikája.

(CAPILLARY PERMEABILITY

eff. of exper. burns & influence of various drugs  
in rats. (Hun))

(BURNS, exper.

eff. on capillary permeability in rats, influence of  
various drugs. (Hun))

~~SZORADY, Istvan, dr.;~~ KOLTAY, Miklos, dr.

Experiences with chlorpromazine (largactil) therapy.  
Gyermekgyógyászat 7 no.7:214-219 July 56.

1. A Szegedi Orvostud. Egyetem Gyermekklinik. (Igaz.:  
Waltner, Karoly, dr. egyetemi tanar) kozl.

(CHLORPROMAZINE, ther. use  
pediatric dis., indic. & clin. evaluation (Hun))  
(PEDIATRIC DISEASES, ther.  
chlorpromazine, indic. & clin. evaluation (Hun))

SZORADY, Istvan, dr.; GABOR, Miklos, dr.; SIPOS, Karoly, dr.

Effects of cortisone in experimental burns. Borgyogy. vener.  
szemle 10 no.2:79-81 March 56.

1. A Szegedi Orvostudományegyetemi Gyermekklinika igaz.: Waltner  
Karoly dr. egyetemi tanár), Női Klinika (igaz.: Batizfalvy Janos dr.  
egyetemi tanár) és Bor-és Nemibeteg Klinika (igaz.: Ravnay Tamas dr.  
egyetemi tanár) közl.

(BURNS, exper.

inj. eff. on capillary permeability in rats, prev. by  
cortisone (Hun))

(CAPILLARY PERMEABILITY

inj. eff. of exper. burns in rats, prev. by cortisone  
(Hun))

(CORTISONE, eff.

prev. of inj. eff. of exper. burns on capillary permeability  
in rats (Hun))

SZORADY, Istvan, dr.

Clinical significance of potassium metabolism and its disorders;  
case of idiopathic hypokalemia in childhood. *Gyermekegyógyászat* 8  
no.3-4:65-82 Mar-Apr 57.

1. A Szegedi Orvostudományi Egyetem Gyermekklinikájának (Igazgató:  
Waltner, Karoly, dr. egyetemi tanár) közleménye.

(POTASSIUM, metab.

clin. significance of metab. & metab. disord. (Hun))

(POTASSIUM, in blood

hypokalemia, idiopathic, in child (Hun))

IVADY, Gyula, Dr.; BUZAS, Geza; SZORADY, Istvan, Dr.

Mechanism of action of hip. Gyermekgyógyászat 8 no.9-10:299-302  
Sept-Oct 57.

1. A szegedi Orvostudományi Egyetem Gyermekklinika-jának (Igazgató:  
Waltner Karoly dr. egyet. ny. r. tanár) Gyógyszerészeti Intézetének és  
Egyetemi Gyógyszertárának (Igazgató: David Lajos dr. egyet. ny. r.  
tanár közleménye.

(FLOWERS

hip extracts, pharmacol. & mechanism of action (Hun))

SZORADY, Istvan

KOLTAY, Miklos, dr.; SZORADY, Istvan, dr.

Largactil therapy in intracranial hemorrhages in newborn and premature infants. Orv. hetil. 98 no.14:364-365 7 Apr 57.

1. A Szegedi Orvostudományi Egyetem Gyermekklinikájának  
(igazgató: Waltner, Karoly, dr. egyet. tanár) közleménye.  
(CEREBRAL HEMORRHAGE, in inf. & child  
ther., chlorpromazine, in newborn & premature (Hun))  
(INFANT, NEWBORN, dis.  
cerebral hemorrh., ther., chlorpromazine (Hun))  
(INFANT, PREMATURE, dis.  
same)  
(CHLORPROMAZINE, ther. use  
cerebral hemorrh. in newborn & premature inf. (Hun))

SZORADY, Istvan, Dr.; KOLTAY, Miklos, Dr.

Clinical significance of ataraxics or tranquilizers. Orv. hetil. 99 no.15:  
489-493 13 Apr 58.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika-jának (igazgató: Waltner  
Károly dr. egyet. tanár) közleménye.

(TRANQUILIZING AGENTS

classif., pharmacol. & clin. significance (Hun))

KOITAY, Miklos, Dr.; SZORADY, Istvan

Experiences on the pediatric application of ataraxics (tranquilizers)  
Orv. hetil. 99 no.15:494-496 13 Apr 58.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika-jának (igazgató: Waltner  
Károly dr. egyet. tanár) közleménye.

(TRANQUILIZING AGENTS, ther. use  
pediatric dis. (Hun))

(PEDIATRIC DISEASES, ther.  
tranquilizing agents (Hun))

SZORADY, Istvan, Dr.

Pantothenic acid therapy of paralytic ileus and intestinal atony (subileus) in infancy and childhood. Orv. hetil. 99 no.43:1498-1503 26 Oct 58.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika-jának (igazgató: Waltner Karoly dr. egyet. tanár) közleménye.

(INTESTINAL OBSTRUCTION, in inf. & child

adynamic, ther., pantothenic acid (Hun))

(INTESTINES, dis.

atony in inf. & child, ther., pantothenic acid (Hun))

(PANTOTHENIC ACID, ther. use

intestinal atony & adynamic intestinal obstruct. in inf. & child (Hun))

SZORADY, Istvan, Dr.

~~Pediatric work in Finland.~~ Gyermekgyógyászat 10 no.8:245-251 Aug 1959

1. A Szegedi Orvostudományi Egyetem Gyermekklinikájának (igazgató:  
Waltner Karoly dr.) közleménye  
(PEDIATRICS)

SZOHADY, Istvan, dr.

Increased capillary permeability as pathomechanical factor in  
pediatric diseases. Orv.hetil. 100 no.38:1353-1358 S '59.

1. A Szegedi Orvostudományi Egyetem Gyermekklinikájának  
(igazgató: Waltner Károly dr. egyetemi tanár) közleménye.  
(PEDIATRIC DISEASES physiol.)  
(CAPILLARY PERMEABILITY physiol.)

SZORADY, Istvan; VICSAY, Margit; OBAL, Ferenc

Effect of pantothenic acid on the sensitivity of the intestine  
to acetylcholine in rats. Kiserletes Orvostudomány 12 no.1:  
75-79 F '60.

1. Szegedi Orvostudományi Egyetem Gyermekklinika és Kélettani  
Intézete.

(PANTOTHENIC ACID pharmacol)

(ACETYLCHOLINE pharmacol)

(INTESTINES pharmacol)

SZORADY, Istvan, dr.; PINTER, Gizella, dr.; PINTER, Attila, dr.

Alizarin test. Orv.hetil. 101 no.46:1641-1642 13 N'60.

1. Szegedi Orvostudományi Egyetem, Gyermekklinika.  
(KIDNEY FUNCTION TESTS)

SZORADY, Istvan, dr.; TOTH, Gyorgy, dr.; TAKACS, Odon, dr.

Glutarimide therapy of asphyxia neonatorum. Orv.hetil. 101 no.52:  
1850-1853 25 D'60.

1. Szegedi Orvostudományi Egyetem, Gyermekklinika es Eletani  
Intezet.

(ASPHYXIA NEONATORUM ther)

(ANALEPTIC ther)

SZORADY, Istvan; KOLTAY, Miklos; DOMBRADI, Geza; TAKACS, Odon

Studies on electrolytes in artificial hibernation. Kiserletes  
orvostud. 13 no.4:337-344 Ag '61.

1. Szegedi Orvostudományi Egyetem Gyermekklinika és Élettani  
Intézete.

(HIBERNATION ARTIFICIAL metab) (ELECTROLYTES metab)

SZORADY, Istvan, dr.

Experience with trioxazin in pediatrics. Gyermekgyógyászat 13  
no.2:47-52 F '62.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika-jának közleménye.  
(PEDIATRICS ther) (TRANQUILIZING AGENTS ther)

SZORADY, Istvan, dr.; FAY, Piroška, dr.

Our experience with the pediatric use of a phenothiazine derivative (Frenolon) of Hungarian production. Gyermekgyógyászat 13 no.6:179-185 Je '62.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika-jának közleménye.

(TRANQUILIZING AGENTS ther)

SZORADY, I.; MARKKANEN, T.; MUSTAKALLIO, E.; WIKSTROM, J.

Studies on the pantothenic acid level in the blood of children and adolescents. Gyermekgyógyászat 13 no.7:193-196 JI '62.

1. A Szegedi Orvostudományi Egyetem Gyermekklinika, a turkui Orvostudományi Egyetem Szerobakteriológiai Intézete és a turkui Kommunális kórház közleménye.

(PANTOTHENIC ACID blood)

SZORADY, Istvan, dr.

Diethetic significance of pantothenic acid in infancy. Gyermekgyógyászat  
13 no.7:197-201 JI '62.

1. A Szegedi Orvostudományi Egyetem Gyermekklinikanak közleménye.  
(PANTOTHENIC ACID nutrition & child) (INFANT NUTRITION)

SZORADY, Istvan; SZ.-ne VICSAY, Margit; OBAL, Ferenc; PUSZTAI, Rozalia;  
TOTH, Janos

Data on the effect of pantothenic acid on the isolated intestine.  
Kiserl. orvostud. 14 no.3:281-286 Je '62.

1. Szegedi Orvostudományi Egyetem Elettani Intézete és Gyermekklinika.  
(PANTOTHENIC ACID pharmacol) (INTESTINES pharmacol)

HUNGARY

SZORADY, Istvan, TOTH, Gyorgy, GAZDAG, Istvan; Medical University, Pediatric Clinic and X-Ray Clinic (Orvostudományi Egyetem Gyermekklinika-ja és Röntgenklinikája), Szeged.

"Observations Concerning the Protective Action of Pantothenic Acid Against Radiation."

Budapest, Kiserletes Orvostudomány, Vol 15, No 2, Apr 63, pp 134-136.

Abstract: [Authors' Hungarian summary] Preliminary tests indicate that the life-span of mice exposed to whole body X-ray irradiation may be lengthened by a prior treatment with pantothenic acid. It may be assumed that the mechanism of the protective action is dependent on the effect of pantothenic acid on the protection of the epithelium and the capillary walls, and its activating role in tissue regeneration, protein synthesis, antibody production and corticoid synthesis, and also its general anti-allergic properties. Details of the protective action must be worked out by further study. Of 37 references, 8 are Eastern European, the rest is Western.

1/1

SZORADY, I.

Pant'othenic acid: experimental results and clinical observations.  
Acta pediat. 4 no.1:73-85 '63.

1. Department of Paediatrics, University Medical School, Szeged.  
(PANTOTHENIC ACID) (METABOLISM) (INFANT, PREMATURE)  
(VITAMIN B DEFICIENCY)

SZORADY, Istvan; TOTH, Gyorgy; GAZDAG, Istvan

Observations on the radio protective effect of pantothenic acid.  
Kiserl. orvostud. 15 no.2:134-136 Ap '63.

1. Szegedi Orvostudományi Egyetem Gyermekklinika és Röntgenklinika.  
(PANTOTHENIC ACID) (RADIATION-PROTECTIVE AGENTS)

SZORADY, Istvan, dr., egyetemi adjunktus (Szeged)

Development of infant nutrition. Pt.1. Term tud kozl 5 no.3:  
120-122 Mr '61.

STERNADY, I.; HART, H.K.; BARAUSI, G.

Pantothenic acid: Its metabolic effects in normal children. Acta  
paediat. acad. sci. Hung. 5 no.2:241-242 '64.

1. Department of Paediatrics (Director: Prof. D. Boda , University  
Medical School, Szeged.

TURAJ, Pal, dr.; KISS, Julia, dr.; SZORADY, Istvan, dr.

On the clinical significance of ceruloplasmin. Orv. hetil.  
105 no.33:1545-1550 16 Ag '64.

1. Szegedi Orvostudományi Egyetem, Gyermekklinika (Igazgató:  
Boda Domokos dr.).

SZORADI, Istvan, dr.; PAIRAI, Istvan, dr.

Our experiences with intravenous deprolone therapy in pediatrics.  
Orv. hetil. 106 no.39:1851-1853 26 S '65.

I. Szegedi Orvostudományi Egyetem, Gyermekklinika (igazgató: Boda,  
Domonkos, dr.).

L 15511-66

ACC NR: AT6007476

SOURCE CODE: HU/2505/65/026/00X/0066/0066

AUTHOR: Madacsy, L.; Szorady, I.; Gabor, M.

ORG: Department of Pediatrics, Department of Gynecology, Medical University of Szeged, Szeged (Szegedi Orvostudományi Egyetem, Gyermekgyógyászati Tanszék és Nőgyógyászati Tanszék)

TITLE: Influence of panthotenic acid on capillary resistance [This paper was presented at the 29th Meeting of the Hungarian Physiological Society held in Szeged from 2 to 4 July 1964]

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, Supplement, 1965, 66

TOPIC TAGS: rat, blood circulation, physiology, man, vitamin

ABSTRACT:

The first part of the experiments was carried out on the shaven back of rats of either sex. Capillary resistance was determined by means of BORBELY's apparatus. In response to suction at a negative pressure of 250 mm Hg for one minute, petechiae appeared. Following the determination of the CR value, the rats were treated

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ACC NR: AT6007476

with panthotenic acid (5 mg/kg, intraperitoneally). Capillary resistance was again determined 3-6 hours after this treatment. The study was considered to be completed when no petechiae appeared after a period of 5 minutes. A significant increase in capillary resistance was achieved in 19 of the 23 animals so treated and no petechiae were visible after 5 minutes. Slight elevations in CR were noted in the other 4 rats as well. In the second part of the experiments, the persistence of the effect was studied in 18 rats. The effect was prolonged in 11 of the animals, present even on the fifth day following the administration of panthotenic acid. Another three animals had a slightly protracted effect. Tests made on 16 small children have likewise shown that panthotenic acid increases CR. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 2/2

SZORENYI, B.

V Citrulliniminase, a new crystalline pyridoxal protein.  
M B. T. Szorényi, P. Elodi, B. Szorényi, and A. Pusztai  
D (Ungar. Akad. Wiss., Budapest). *Acta Physiol. Acad. Sci.*  
*Hung.* 7, 103-5 (1955) (in German).—Fine needles of citrul-  
liniminase (1.8 g.) (I) with 1200-fold activity were isolated  
by  $(\text{NH}_4)_2\text{SO}_4$  fractionation from 1 kg. of crayfish (*Potamo-*  
*bidus astacus* or *P. leptodactylus*) muscle. Pyridoxal-5-phos-  
phate was required as a coenzyme in the conversion of citrul-  
line to arginine in the presence of I and  $\text{NH}_4\text{Cl}$  at pH 9.1.  
Edwin L. Sexton

③

STORÉNYI, B.

/Immunobiological and chemical studies of albumins from closely related species. I. Albumin of the  
slovak. T. Dévényi, A. Dévényi and B. Storényi.  
Acad. Sci. Budapest. 1966, 10, 1-10.  
No. 4, 309-320, 1966, in English. It has been shown by  
method of quant. pptn. that serum albumins from horse,  
donkey, mule (i.e., from closely related animal species)  
behave as identical antigens. They are said to contain the  
same N- and C-terminal dipeptides, the common N-termi-  
nal dipeptide being asparagyl-threonine and the C-terminal  
dipeptide: leucyl-alanine. It is noted that the terminal di-  
peptides in human serum albumin are different from those of  
horse, donkey, and mule albumins. Chromatograms used

for detn. of C-terminal peptide are shown, also precipitin  
curves of anti-serum albumin with Ag N (Heidelberger  
method, C.A. 30, 1583). Detn. of N-terminals is done by  
the Sanger method (C.A. 40, 53003). — G. Cornish

SZORENYI, B.  
DEVENYI, T.; SAJGO, M.; SZORENYI, B.

The cyclic character of the chemical structure of phosphoglyceraldehyde dehydrogenase. Acta physiol. hung. 13 no.2:89-94 1958.

1. Biochemisches institut der ungarischen akademie der wissenschaften, Budapest.

(~~DEHYDROGENASES~~

phosphoglyceraldehyde dehydrogenase, evidence on cyclic structure (Ger))

SZORENYI, Bronislava

Studies on D-glyceraldehyde-3-phosphate dehydrogenase. XVII.  
Isolation from monkey muscle. (preliminary report). Acta physiol.  
hung 17 no. 2:195-196 '60.

1. Institute of Biochemistry of the Hungarian Academy of Sciences,  
Budapest.

(DEHYDROGENASES chem.)

(MUSCLES metab.)

DEVENYI, T.; SAJGO, M.; SZORENYI, Bronislava.

Comparative analysis of some peptides of Haemoglobin and myoglobin.  
Acta physiol.hung. 17 no.2:197-204 '60.

1. Institute of Biochemistry of the Hungarian Academy of Sciences,  
Budapest.

(HEMOGLOBIN chem.)

(PEPTIDES chem)

DEVENYI, T.; KELETI, T.; SZORENYI, Bronislava; SAJGO, M.

Studies on D-glyceraldehyde-3-phosphate dehydrogenases. XVIII.  
The lipid component of the enzyme. Acta physiol. hung. 18 no.4:  
271-274 '61.

1. Institute of Biochemistry, Hungarian Academy of Sciences, Budapest.

(DEHYDROGENASES chem) (LIPIDS chem)

DEVENYI, Tibor; SAJGO, Mihaly; HORVATH, Edit; SZORENYI, Broniszlava

Detection of D-glyceraldehyde-3-phosphate-dehydrogenase subunits.  
Magy kem folyoir 70 no.3:123-125 Mr '64.

1. Biochemical Institute, Hungarian Academy of Sciences, Budapest.

43011-66

ACC NR: AT6031822

SOURCE CODE: HU/2505/65/026/003/0207/0216

AUTHOR: Devenyi, Tibor--Deven'i, T.; Sajgo, Mihaly--Shaygo, M.; Horvath, Edit--  
Khorvat, E.; Szorenyi, Broniszlava--Seren'i, B.; Polgar, Laszlo--Pol'gar, L.

15  
B+

ORG: Institute of Biochemistry, MTA, Budapest (MTA Biokemiai Intezet)

TITLE: Tryptic hydrolysis of glyceraldehyde-3-phosphate dehydrogenase

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, no. 3, 1965,  
207-216

TOPIC TAGS: hydrolysis, enzyme, polypeptide, paper chromatography

ABSTRACT: A trypsin-resistant 'core' fraction has been isolated from the tryptic hydrolysate of denatured glyceraldehyde-3-phosphate dehydrogenase. Four peptides could be separated by means of gel-filtration and micropreparative paper chromatography. It was established that the large peptides are homologues and contain the entire active site of the enzyme. The possibility of the employment of the 'core' fraction for analytic purposes is raised. The authors thank Professor F. B. Straub for valuable suggestions and helpful discussions in this work. The authors also thank Mrs. H. Mozsar, Mrs. K. Lendvai and Mrs. M. Barkoczy for skillful technical assistance. Orig. art. has: 5 figures and 3 tables. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 18Oct63 / ORIG REF: 004 / OTH REF: 005

Card 1/1 MLP

0919 0570

SZORENIY, E. T.

SEE: SORENI, E. T.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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1ST AND 2ND ORDERS      PROCESSES AND PROPERTIES INDEX      2ND AND 4TH ORDERS

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**Effect of training on the respiration of muscle tissue.**  
**Emstich, L. Szörényi.** *Ukrain. Biokhem. Zhur.* 9, 193-9  
 (in Russian 200-7, in German 202-3) (1939).—The semi-  
 tendinosus and biceps femoris muscles of rabbits, after  
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1ST AND 2ND ORDERS      METALLURGICAL LITERATURE CLASSIFICATION      2ND AND 4TH ORDERS

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114

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PROCESSING AND PROPERTIES INDEX																																																			
<p>CA</p> <p>11F</p> <p>The influence of training on the respiratory function of the muscle tissue. II. Changes in the system of respiratory enzymes of muscles after training. R. T. Szorényi and O. Chepinoga. <i>Ukrain. Biochem. Zhurn.</i> 1967, 10: 21 (in Russian RM-8, in German RM 32) (1967). The action of HCN was smaller on trained than on untrained muscle. Its effect on the cardiac muscle is much smaller than on trained skeletal musculature. <math>H_2A_2O_2</math> cannot be used for the study of changes in the system of respiratory enzymes, because it completely poisons the respiration of fragments of muscle tissue. Training leads to an increase of flavin content (tests on rabbits); there is a definite relation between the flavin content and the increase of residual respiration resistant to the effect of HCN. The yellow ferment has no effect on the increase of respiration.</p> <p>E. R. Stefanowsky</p>																																																			
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CA 11F

PROCESSES AND PREPARATIONS

Respiration and the respiratory-enzyme system of a fatigued muscle. E. T. Szórényi and O. P. Chepinoga. *Ukrain. Biochem. Zh.* 9, 889-1001 (in Russian 1001-2, in German 1003-4) (1936).—The respiration of comminuted fatigued rabbit muscle is 15% greater than that of a control. The increase of respiration is caused not by lactic acid, but by some other substance accumulated in the muscles when fatigued. The respiration of fatigued muscle is hindered by HCN to the same degree as that of the control. Fatigue does not influence the flavin content of the muscle; hence the vitamin B<sub>2</sub> requirement of the organism is not increased by violent muscular work. The respiratory enzyme in the muscles is not changed by fatigue.

E. E. Stefanowsky

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<div style="display: flex; justify-content: space-between;"> <span>Ca</span> <span>11F</span> </div> <p>The effect of training of muscles on the Pasteur-Meyerhof reaction. E. T. Szörényi and O. P. Chepinoga. <i>Biochem. J.</i> (Ukraine) 10, 633-33 (in Russian 644, in English 645) (1937).—Preliminary training produces in the muscle tissue an increase in anaerobic and aerobic glycolysis. This may be due not only to an increase in the glycogen content of the muscle, but also to an increase of the activity of the glycolytic enzyme system by training. Training does not affect the Pasteur-Meyerhof reaction. E. R. Stefanowsky</p>																																																			
<div style="display: flex; justify-content: space-between;"> <div> <p>COMMON ELEMENTS</p> <p>COMMON VARIABLE INDEX</p> </div> <div> <p>ASH-11A METALLURGICAL LITERATURE CLASSIFICATION</p> </div> </div>																																																			

11 F

*Ca*

PROCESSES AND PROPERTIES INDEX

The hydrocyanic acid-resistant part of muscular respiration. E. T. Szöcsényi and O. P. Chepuraga. *Russkhem. J. (Ukraine)* 41:807-24 (in Russian, 325, in English, 326) (1938); cf. S. and C., *J. Physiol. U. S. S. R.* 22, 504 (1937); C. 1, 31, 3128. Expts. on various muscles of frogs, pigeons, hens and dogs showed a rise in the respiration of minced muscles with an increase of working efficiency, the HCN-sensitive part of the respiration increasing only a little or not at all, while the HCN-resistant part increased considerably. This confirms the result obtained earlier with rabbit muscles. The mincing of rat diaphragms with scissors leads to a considerable rise in the inhibition of respiration by HCN, to a lower extent this is the case with rabbit diaphragms, this shows that the HCN-resistant part of the respiration is a phenomenon characteristic for uninjured muscles and not an artificial product. It possesses the capacity of inhibiting the formation of lactic acid in the muscles, probably owing to the action of the yellow enzyme, which proves that it participates in the Pasteur-Meyhof reaction. The above results suggest the great physiol. importance of the HCN-resistant part of the respiration in muscle metabolism. F. E. Stefanowsky.

ABSTRACT METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
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<b>CA</b> Study of the mechanism of Pasteur reaction. I. Experimental proof of the theory of Szent-Györgyi. Emerich T. Szent-Györgyi. <i>Biochem. J.</i> (Ukraine) 15, 5-33 (in Russian), 37-57; in German, 39-44 (1940); cf. C. A. 33, 4304; Szent-Györgyi, C. A. 33, 3402. — No effect on lactic acid formation in Meyerhof ext. and in minced rabbit muscles was produced by $3.8 \times 10^{-2}$ mol./l. of oxalacetic acid (I). C-Dicarboxylic catalysis of Szent-Györgyi (II) is absent in the lung tissue also. This tissue does not reduce I, does not oxidize succinic acid and respiration is not retarded in it by malonic acid, but it gave a typical Pasteur reaction (III). Prep. fibers of muscle pectoralis maj. of pigeon and the diaphragm of rat showed III in phosphate buffer and in Ringer soln. The reaction is optimal in the phosphate, but the glucolysis can be detd. with a manometer in Ringer soln. with greater precision than chemically. Malonate (0.05 M) retarded respiration by more than 80% in phosphate, less so in Ringer soln. It also some-										what retarded fermentation, but less in the phosphate. The difference between aerobic and anaerobic glucolysis in phosphate is decreased little or not at all, Meyerhof quotient (Q) rising to 2-4 times that of the controls. In Ringer soln. Q remained unchanged; this indicates that III is taking place also in the muscles in the absence of II. Apparently the oxidation processes leading to II are not caused by the normal cell respiration. Maleic acid was also found to be a nonspecific poison for II. It retarded respiration and muscle anaerobic glucolysis, raising somewhat the aerobic. Q dropped to zero, and III disappeared. In the light of the work on the poisoning of SH-groups by maleic acid, with subsequent elimination of succinodehydrogenase and the catalysis by mutase of the reaction between phosphotriose and pyrotartaric acid, the hypothesis that these groups also play a role in III is more plausible than that of Szent-Györgyi. The finding of III in objects lacking II, or where II was artificially excluded, showed the latter to be playing no role in the reaction. At the same time, carbohydrate oxidation in most of the animal cells is aided by II. Pasteur reaction and the oxidation of "triose" (the little known carbohydrate deriv. which acts as a respiration substrate) are not related. Their independence becomes more evident on considering the retardation of glucolysis by respiration in some earlier stage before the formation of phosphotriose. If the fumarate system, representing a link between the activation of O and H, does not play any role in III, and the Warburg-Keilin system itself is not necessary for its realization, then it is possible that some oxidation processes other than normal respiration are responsible for III.									
ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION																			
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<p><i>Changes in the metabolic processes in brain tissues</i>  bromocamphor epilepsy. F. T. Storenvi, L. I. Kuchero  and K. M. Fuks. <i>Biochem. J.</i> (Krafin) 16, No. 2, 297-  320 (in Russian, 320-4; in German, 321-8) (1940).—<i>In</i>  <i>vitro</i>, monobromocamphor (I) strongly retards the respira-  tion of the brain tissue; the effect is immediate in aq. soln.  and gradual in oil (sunflower seed); the effect is the same  on the cerebellum and on the gray and white matter of the  cerebral hemispheres; there is no effect in the absence of  glucose. Succinic acid is not affected by I. The mecha-  nism is regarded as affecting that part of the enzyme system  which oxidizes glucose. <i>In vivo</i>, or <i>in vitro</i>, I does not affect  the anaerobic glycolysis; there is no contradiction in the  observed increases of lactic acid after an attack of epilepsy,  since I also retards the Pasteur reaction. Respiration of  brain section of normal and epileptic mice (<i>in vivo</i>) is the  same in the presence of glucose, but is lower for epileptics  in its absence, possibly because of the consumption of the  insignificant carbohydrate reserves during the attack.  The <math>\text{NH}_3</math> content of the finely cut-up brain is a constant  magnitude, but is increased after an attack, from 10-12  mg. % to 12-17 (the individual fluctuations increase).  There is a tendency to <math>\text{NH}_3</math> formation in the epileptic  brain from the added adenosinetriphosphoric acid; the  disturbance of the chemical functions continues even  after the elimination of I. This might be of some signi-  ficance in the convulsion therapy of schizophrenia. Three  widely differing poisons of the central nervous system:  catatonics, bulbocapnine and mescaline, narcotic, ure-  than, and I have the same effect on the anaerobic me-  tabolism of the brain; the possibility of anatomic localiza-  tion appears to be excluded, but finer technique, difficult  on the small animals might give more pos. results. There</p>										<p>is also a possibility that the poisons interrupt certain stages  of the oxidation, or that the specific action is not due to the  inhibition of respiration, but to some other, uninvesti-  gated processes of metabolism. Bromocamphor epilepsy  is not identical with real epilepsy, but there are indica-  tions that the disturbances are similar. <i>In vivo</i>, the expts.  were performed after the violent attacks which followed  the intraperitoneal injections of 150-250 mg. of 0.03%  solns. of I.  B. Outoff</p>									

**CA**  
**Study of the mechanism of the Pasteur effect. II. Bach reaction.** E. T. Sgorbun, *Ukrain. Biochem. J.* 18, 5-10, (1940) (English summary); cf. *J. A.* 35, 143. Bach discovered in 1908 that peroxidase, in the presence of  $H_2O_2$ , retards the effect of zymase, and assumed that the yeast cells belong to the small class of organisms lacking peroxidase. The expt. was repeated by S., using Meyerhof muscle ext., or its acetone prep., confirming H.'s findings; after excluding the action of catalase, and adding 0.02 M HCN, 0.0005 M of  $H_2O_2$  still induced 30-50% glycogenolysis inhibition; a concn. of 0.0002 M was inactive. This, together with the fact that the reaction is reversible, and that  $H_2O_2$  is an agent inherent to

the cell, gave this reaction an advantage over other models of Pasteur effect. **III. Mechanism of the "Bach" reaction.** *Ibid.* 17-32. To detn. the effect of  $H_2O_2$  on P compds. accumulated in the muscle preps., three series of expts. were conducted, with Meyerhof ext., acetone prep., and minced muscle tissue (430 mg. of tissue was added to a 2 ml. suspension of 1.4 ml. of isotonic  $NaHCO_3$ , 0.2 ml. 4% starch, and 0.4 ml. of the other substances to a final concn. of  $H_2O_2$ , 0.02 M;  $CH_3CO_2H$ , 0.004 M; NaF, 0.2%; and  $NaH_2PO_4$ , 0.02 M; the protein was pptd. with 15 ml. 4%  $CCl_3CO_2H$ . The addn. of  $H_2O_2$  hindered, or completely inhibited the formation of lactic acid in all expts.; the readily hydrolyzable P of adenosine triphosphate acid dropped, then completely disappeared, and the labile P of Harden-Young increased in value; the

alkali-hydrolyzable P of phosphotriose increased, as well as the difficultly hydrolyzable P of Embden ester. These changes, similar to those induced by  $CH_3CO_2H$  poisoning could be interpreted as inhibition of the oxidation-reduction between phosphoglyceraldehyde and pyruvic acid; the formation of Noekein ester and the phosphorylation of pyruvic acid did not take place, thus destroying the two ways of rephosphorylation of adenylic acid.  $H_2O_2$  did not affect the aldolase reaction; in the presence of NaF it inhibited the esterification of inorg. P. Slight concns. of  $H_2O_2$  (0.0030 M) inhibited the phosphorylation of starch; larger amts. increased the inhibition, but did not completely stop it. This partial inhibition may secure for the cell the effect discovered by Pasteur, consisting of greater economy of consumption of carbohydrates in aerobiosis. **IV. Inhibition of glycogen phosphorylation by cellular respiration.** *Ibid.* 33-52. To det. the effect of cell respiration on the phosphorylation of glycogen (without the interference of the oxidative esterification of other acceptors of P-adenylic acid system, creatine, glucose) which take place in aerobiosis in the presence of NaF, muscle tissue of rabbit, rat, and pigeon was shaken in an atm. of  $O_2$  at 38° as long as the oxidative esterification lasted (30-40 min.); in one series the samples were refilled with  $O_2$  in the others with  $H_2$ ; starch and glycogen were added, shaken at 38°, then the disappearance of inorg. P and increase in the difficultly hydrolyzable P were noted; the controls had no polysaccharides. In

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analogy to the coeff. of Meyerhof the following are proposed as the

$$(1) (Q_P^{H_2} - Q_P^O)/Q_{O_2}$$

$$(2) (Q_P^{H_2 \text{ total}} - 180) - Q_P^{O \text{ total}} - 180 / Q_{O_2}$$

oxidative coeff. of phosphorolysis. The phosphorolysis was inhibited to some extent by respiration; the coeffs. were between 1 and 2, similar to those of Meyerhof's. The observations were made on very carefully prepd. tissue; in finely minced tissues the effect was not observed. To eliminate the possibility of application of Dixon's theory whereby respiration reduces the permeability of the cell, and the enzymes do not reach the substrate, the effect on the glycogen of the cell proper was investigated; the oxidation-reduction of the esterification was retarded by  $CH_3CO_2H$ , and the elimination of inorg. P could largely be ascribed to glycogen phosphorolysis. The elimination of P was also greater in anaerobiosis, proving the retarding effect on cell glycogen as well as on the added; the effect on the difficultly hydrolyzable P was unexpectedly too great, leading to the conclusion that the carbohydrate-preserving action of respiration (Pasteur effect) in warm-blooded animals may be quantitatively attributed to an oxidative inhibition of phosphorolysis of glycogen. This effect was well pronounced in muscle tissues in expts. of short duration (15-30 min.); with liver tissue it was necessary to continue the expts. one hour or longer. The consumption of glycogen in liver sections was 2-3 times higher in H than in O.  $NaF$  and  $CH_3CO_2H$  completely arrested this effect, and even reversed it, to greater consumption in O. The results indicated aerobiosis as a factor physiologically retarding the formation of blood sugar from liver glycogen, explaining the symptoms of hyperglycemia in asphyxia and other cases of acute anoxemia. Phosphogluconic acid did not inhibit phosphorolysis.

Boris Gutloff

SCOREN ~~RE~~ T.

Chemical Abst.  
Vol. 48 No. 8  
Apr. 25, 1954  
Biological Chemistry

(3)  
A new specific property of myosin. V.B. T. Scorenyi and O. P. Chepinoga (Inst. Biochem., Acad. Sci. Ukr. R. S. R., Kiev). *Ukrain. Biokhim. Zhur.* 18, 169-76 (in Russian, 177-8) (1948).—This new property is the binding of inorganic phosphate by myosin (I). I was prepd. from rabbit muscle and subdivided into several fractions A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub>, B<sub>1</sub>, B<sub>2</sub> and by aid of 4.5% and 12% KCl in a NaHCO<sub>3</sub>-Na<sub>2</sub>CO<sub>3</sub> buffer at pH 9.1, the B fractions are actomyosin (II). Diffusion and ultrafiltration expts. at pH 9.1 and 8.1, of Na<sub>2</sub>HPO<sub>4</sub>, adenosinetriphosphate (ATP) (III), adenosinediphosphate, Ca-ATP, Na-ATP in presence or absence of I, adenosinetriphosphatase (IV), CaCl<sub>2</sub> (V), KH<sub>2</sub>PO<sub>4</sub> gave the following results: inorg. P, after addn. to I, is freely diffusible, it distributes itself according to a Donnan equil. The phosphate split off from III by IV is partly bound, and the bound part does not participate in the osmotic equil. All the fractions of I show this phosphate binding to a larger or lesser degree, the same holds true for the water-sol. IV prepd. according to Kaickar, but not for the IV from potato. The activation of I by V has not much effect on the phosphate binding. At pH 9.1 10-15 mg. P are bound per g. of I; the value does not depend on the concn. of I. P bound this way does not inhibit the III-binding capacity and the enzymic activity of I, nor the viscosity-diminishing effect of III on II. If a mol. wt. of 100,000 is assumed for I, then under these exptl. conditions it will bind 37 moles of III and 50 of P, both values being independent from each other. Acidifying with AcOH and heat denaturation releases the phosphate bound to I, and the binding capacity is increased by addn. of concd. KOH; in this last expt. the presence of inorg. P will falsify the results, as the expt. protein obviously is able to bind same. Muscle ext., muscle brei and alk. phosphatases do not release the bound P. It was not possible to identify the acylphosphate group. Acetylcholine in concns. of 1:500 to 1:10,000 partly releases the P bound to I. Werner Jacobson

SZORENYI, E. T.

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Biological Chemistry

②  
The influence of malonic acid on glycogen consumption  
in the muscles. E. T. Szorenyi (Inst. Biochem., Acad. Sci.  
Ukr.R.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 18, 267-9  
(in Russian, 270; in English, 271)(1946).—*Polemical*  
(cf. Kutscher, *et al.*, *C.A.* 35, 1850<sup>2,3</sup>). W. J. ✓

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CA
11A

Protein-bound phosphate as a product of enzymic hydrolysis of adenosinetriphosphoric acid. E. T. Szórényi and O. P. Chepinoga (Acad. Sci. Ukrainian S.S.R., Kiev). *Compt. rend. acad. sci. U.R.S.S.* 52, 321-4 (1946).--Inorg. phosphate added to a myosin soln. is freely diffusible through cellophane, and the ultrafiltrate of such a mixt. contains about the same amt. of inorg. phosphate as the initial mixt. When Na-ATP is substituted for the inorg. phosphate in such an amt. as to make the final concn. of terminal phosphate groups approx. equal to the previous concn. of inorg. phosphate, it is found that after equil. is reached, the internal myosin-contg. soln. contains a larger amt. of inorg. phosphate as compared with the external soln. contg. no myosin. Ultrafiltration expts. also indicate that phosphate is bound by myosin. Acidifying with AcOH or denaturing by heat causes myosin to ppt. and release bound P. Alkali increases P-binding capacity of myosin. At pH = 9.1, 10-15 mg. of P are bound by 1 g. of myosin. This value does not depend on myosin concn. No significant effect is produced by activation of ATP by CaCl<sub>2</sub>. Adenosinetriphosphatase produced from aq. muscle ext. by pptn. at pH 6.0 shows an effect similar to that of myosin. It is proposed that the bound P may serve as a latent source of osmotic pressure and as a device for maintaining unequal concns. of P in cellular and intracellular spaces.

Marshall E. Deutsch

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CA
11A

Protein-bound phosphate as a product of enzymic hydrolysis of adenosinetriphosphoric acid. E. T. Szórényi and O. P. Chepinoga (Acad. Sci. Ukrainian S.S.R., Kiev). *Compt. rend. acad. sci. U.R.S.S.* 52, 321-4 (1946).--Inorg. phosphate added to a myosin soln. is freely diffusible through cellophane, and the ultrafiltrate of such a mixt. contains about the same amt. of inorg. phosphate as the initial mixt. When Na-ATP is substituted for the inorg. phosphate in such an amt. as to make the final concn. of terminal phosphate groups approx. equal to the previous concn. of inorg. phosphate, it is found that after equil. is reached, the internal myosin-contg. soln. contains a larger amt. of inorg. phosphate as compared with the external soln. contg. no myosin. Ultrafiltration expts. also indicate that phosphate is bound by myosin. Acidifying with AcOH or denaturing by heat causes myosin to ppt. and release bound P. Alkali increases P-binding capacity of myosin. At pH = 9.1, 10-15 mg. of P are bound by 1 g. of myosin. This value does not depend on myosin concn. No significant effect is produced by activation of ATP by CaCl<sub>2</sub>. Adenosinetriphosphatase produced from aq. muscle ext. by pptn. at pH 6.0 shows an effect similar to that of myosin. It is proposed that the bound P may serve as a latent source of osmotic pressure and as a device for maintaining unequal concns. of P in cellular and intracellular spaces.

Marshall E. Deutsch

USSR

Interaction of myosin with phosphocreatine. B. T. Szorényi and P. D. Dvornikova (Inst. Biochem., Acad. Sci. U.S.S.R., Kiev). *Ukrain. Biochim. Zhur.* 20, 255-9 (1948); in Russian; cf. preceding abstr. --The purpose was to det. whether myosin can bind creatine and phosphocreatine, and whether it is possible to phosphorylate myosin by phosphocreatine, in the presence of catalytic amts. of adenosinediphosphate (ADP). Results: (1) It was proved, by the compensation dialysis method (C.A. 43, 4602a) that myosin cannot bind either; both diffuse freely in the presence of myosin. (2) The possibility of transfer of phosphocreatine P to myosin in the presence of Ca and catalytic amts. of adenosinetriphosphate (ATP) was proved. Small amts. of phosphocreatine P split during compensation dialysis do not bind to myosin in the absence of the adenylic system. Myosin was prepd. according to Lyubl'mova and Pavlyar (C.A. 35, 7432a); ATP and ADP according to Lohmann (C.A. 29, 2185); creatine from rabbit muscle; phosphocreatine by enzymic phosphorylation of creatine by phosphoglyceric acid. The purity of the Ba salt prepp. of phosphocreatine was about 80%. Dialysis was carried out at room temp. for 20-24 hrs.

Clayton F. Heloray

PROCESSING AND APPROVALS	
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<p>Isolation in the crystalline state and some properties of adenosinetriphosphate-arginine transphosphorylase. E. T. Sotenyi, P. D. Dvornikova, and R. G. Degtyar. <i>Doklady Akad. Nauk S.S.S.R.</i> 67, 341-4 (1949). Muscle of claws and legs of crayfish minced at 0° are extd. with ice water for 40 min., squeezed out, and centrifuged. The soln. treated with <math>(\text{NH}_4)_2\text{SO}_4</math> (43.2 g. 100 ml.) and rapidly filtered gives in 24 hrs. 2 sets of</p>	<p>crystals, largely bipyramidal and some cubic. The sepn. is complete in 5-10 days in the cold, when the bipyramids reaching large dimensions collapse; the mixt. is centrifuged just before this takes place and the product is stored in small vol. of <math>(\text{NH}_4)_2\text{SO}_4</math> soln. (0.6 satd.). Yield is 1.36 g./kg. The sepn. of the 2 forms: the original soln. is kept 40-8 hrs. at 0° to complete crystn. of cubic form, which is sepd. by centrifuging and let stand several hrs. at 20° when the bipyramidal form crystallizes in the pure state. The latter catalyzes the reaction arginine phosphate + adenosinediphosphate = arginine + adenosinetriphosphate in glycine buffer at pH 9.1. The product contains 2700-3000 transphosphorylase units per mg. The enzyme is inactivated by 10 min. at 50° and on its dialysis against distd. water an inactive ppt. forms, while dialysis against 0.5-1.0% KCl leads to partial denaturation; dialysis against <math>(\text{NH}_4)_2\text{SO}_4</math> does not denature the product, and 0.015 M arginine stabilizes it to 10 min. at 50°. The isoelec. point is pH 3.5. The equil. const. of the above reaction system at pH 9.1 is 8, at pH 8.1 500; at pH 9.1 0.01 M Mg increases it to 12, 0.01 M Ca to 21, 0.01 M Mn 54. The cubic crystals have isoelec. point at pH 5.8 (pptn. takes place only on warming in the acetate buffer, in contrast to the other form) and the material has no transphosphorylase activity in the above system, but gains it on addn. of 0.01 M Mg or 0.005 M Mn, which vanishes after 3 crystns. Spectral analysis of both forms shows 0.267% Mn and traces of Mg and Si. G. M. K.</p>
<p>ASB-SLA METALLOGICAL LITERATURE CLASSIFICATION</p>	
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<p>RECORD NO. 1</p>	
<p>EXON: 517 5111</p>	

SORENI, E. T.

PA 54/49768

USSR/Medicine - Adenosintriphosphatase  
Medicine - Biochemistry

Jul 49

"Isolation in Crystal Form and Description of Some Properties of an Adenosintriphosphatase," E. T. Soren, P. D. Dvornikova, R. G. Degtyar', Inst of Biochem, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXVII, No 2

Simple method, suitable for students, is worked out for isolating adenosintriphosphatase in two crystal forms. Phosphatase activity of crystal ferment, including amount of albumin per milligram, is tabulated for one crystal form and a mixture of both.

USSR/Medicine - Adenosintriphosphatase  
(Contd) 54/49768  
Jul 49

Fermentative nature of the second form has not yet been clarified. Submitted by Acad A. V. Palladin 21 Apr 49.

54/49768

SORMNI, E.T.; DECTYAR, R.G.

Relation of action to adenosinetriphosphate-creatine-pherase. Ukr.  
biokhim.zhur. 22 no.2:135-143 '50. (MLRA 9:9)

1. Institut biokhimii Akademii nauk URSR, Kiev.  
(ACTINS) (ENZYMES)

SZOKENYI, E.

Enzymes of arginine phosphate from crayfish. B. T. Szokényi, P. Blodi, and T. Deutscher (Biochem. Inst. Hung. Acad. Budapest). *Acta Physiol. Acad. Sci. Hung.* 5, 327-51 (1954) (in German).--Arginine phosphate (I) was formed by crayfish muscle ext. from citrulline (II) in the presence of  $\text{NH}_4^+$  and adenosinetriphosphate (ATP). This involved two reactions. The formation of arginine (III) from II and the subsequent phosphorylation of III which was catalyzed by argininephosphatase. The crayfish muscle contained all 3 substrates for the reaction, namely, II,  $\text{NH}_4^+$ , and ATP. Muscles of *Helix pomatia* and *Dytiscus marginalis* did not contain II. Amino acids and amino dicarboxylic acids inhibited the formation of III from II. Phenylhydrazine and hydroxylamine prevented the formation of I from II, but not from III. The muscle ext. inactivated by dialysis was reactivated by the conjoint addition of pyridoxal phosphate and ammonium salts. The citrullinase is a pyridoxal phosphate protein. The reaction is reversible and it has a pH optimum at 9.1. S. Ellis

MA 2011

Szorényi, E. T.

USSR  
HUNG

✓ The identity of protein F-0.7 with the enzyme D-glyceraldehyde-3-phosphate dehydrogenase. E. T. Szorényi and P. Elodi (Inst. Biochem., Acad. Sci. Hung. Peoples Rep., Budapest). *Ukrain. Biokhim. Zhur.* 26, 387-96 (1954) (in Russian).—A cryst. protein fraction designated as F-0.7 was previously isolated from rabbit muscle (cf. *ibid.* 22, 127 (1950)). It was identified as D-glyceraldehyde-3-phosphate dehydrogenase. Similar fractions were isolated from muscle of hogs and cattle. The activity of the fraction reached its max. on the 3rd-4th purification. F-0.7 differs from phosphoglyceraldehyde dehydrogenase prepd. by the method of Cori, *et al.* (*C.A.* 42, 8841a) only in the method of its crystn. and the shape of its crystals. All biochem. properties of F-0.7, known D-glyceraldehyde-3-phosphate dehydrogenase, and phosphoglyceraldehyde dehydrogenase of Cori were identical. The method used for the isolation of F-0.7 is claimed to be simple. B. S. Levine

62  
②

SZABO, E.

I. Korobkov's Guide to the Classification and Methodology to Tertiary Mollusks;  
a book review. p. 367.

FOUDANT KOSLOVY. BULLETIN OF THE HUNGARIAN GEOLOGICAL SOCIETY, Budapest, Vol.  
44, no. 4, Oct./Dec. 1954.

SO: Monthly List of East European Accessions, (MEAL), LG, Vol. 4, no. 10, Oct. 1955,  
Uncl.

*SORENI, E.T.*

USSR/ Biology - Biochemistry

Card 1/1 : Pub. 22 - 31/49

Authors : Deych, T. L., and Soreni, E. T., Act. Memb. of Hungarian Acad. of Sc.

Title : Amino-end groups of gliadins and their change under the effect of intergeneric hybridization

Periodical : Dok. AN SSSR 98/4, 623-626, Oct. 1, 1954

Abstract : Biochemical data on the establishment of amino-end groups of certain gliadins (vegetable proteins) are presented. Fourteen references: 6-USA; 3-USSR; 3-Hungarian; 1-French and 1-German (1925-1954). Table; drawings.

Institution : Acad. of Sc. Hungary, Institute of Biochemistry, Budapest

Presented by : Academician I. A. Oparin, June 28, 1954

SECRET, E.

Notes for the study of Archiacia (Echinoidea), In French, p. 383,  
ACTA GEOLOGICA, (Magyar Tudományos Akademia) Budapest, Vol. 3,  
No. 4, 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,  
Vol. 4, No. 12, December 1955

SZORÉNYI, E. T.

✓ Citrulliniminase, a new crystalline pyridoxal protein.  
M E. T. Szorényi, P. Elodi, B. Szorényi, and A. Pusztai.  
D (Ungar. Akad. Wiss., Budapest). *Acta Physiol. Acad. Sci.*  
*Hung.* 7, 103-5(1955)(in German).—Fine needles of citrul-  
liniminase (1.8 g.) (I) with 1206-fold activity were isolated  
by  $(\text{NH}_4)_2\text{SO}_4$  fractionation from 1 kg. of crayfish (*Pelamo-*  
*bis asturus* or *P. leptodactylus*) muscle. Pyridoxal-5-phos-  
phate was required as a coenzyme in the conversion of citrul-  
line to arginine in the presence of I and  $\text{NH}_4\text{Cl}$  at pH 9.1.  
Edwin L. Sexton

③

SORENI, E.T.

Citrulline iminase, a new crystalline pyridoxal protein. Ukr.  
biokhim.zhur. 27 no.3:394-400 1955. (MLRA 8:12)

1. Institut biokhimii Akademii nauk Vengerskoy Narodnoy Respu-  
blik, Budapesht.

(ENZYMES,  
citrulline iminase)

SZORENYI F.

SZORENYI, E.

(Nature of work, etc. of the person named in the title)

SZORENYI, E.

✓ Crystallization and comparative studies of ~~N-3-phospho-~~  
DEAD from results of

2

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001754530001-5

SECRET

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001754530001-5"

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001754530001-5

SECRET, E.

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001754530001-5"

SZORENYI, E.

7. Summary of work done during the period

During the period from 1 January to 31 December 1964, the following work was done:

1. The first part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

2. The second part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

3. The third part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

4. The fourth part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

5. The fifth part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

6. The sixth part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

7. The seventh part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

8. The eighth part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

9. The ninth part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

10. The tenth part of the work was devoted to the study of the properties of the system of equations (1) and (2) and to the construction of the solution of the problem of the motion of the system of particles.

KELMETI, T.; SZORENYI, E.

Comparative studies on Lebedew's juice prepared from beer and alcohol yeast. Acta physiol. hung. 9 no.4:399-405 1956.

1. Biochemisches Institut der Ungarischen Akademie der Wissenschaften, Budapest.

(YEASTS

Saccharomyces cerevisiae, isolation of multiensyme system from alcohol & beer & cond. for activity. (Ger))

(ENZYMES

multiensyme system from Saccharomyces cerevisiae in alcohol & beer, isolation & cond. for activity. (Ger))

SZORENYI, E.

GEOGRAPHY & GEOLOGY

Vol. 63, no. 3, 1958

Szorenyi, E. Remnants of echinoderms in the Strazov Mountains and in the Slovak Paradise. In German. p. 129.

Monthly Index of East European Accessions (EEAI)LC, Vol, 8, No. 1,  
Jan. 1958

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p><b>SZORENYI, F.</b></p> <p><i>Handwritten: SZORENYI, F.</i></p> <p><i>Handwritten: 11F</i></p> <p>The protein and cystine contents of hen eggs. Ferenc Szorenyi. <i>Kozlemenyek Orszahasonlós Elet- Körtan Kör- ségi 29, 110-11(1941).</i>—The total protein content of eggs is approx. const., but the ratio of different fractions varies within wide limits. The wt. of egg seems to be inversely proportional to the protein content of the yolk. The cystine content of the whole egg depends on the wt. of the egg. The relative cystine contents of egg white and egg yolk are nearly the same. The wt. of egg diminishes during storage, the protein content of the white increases and the protein content of egg yolk remains stable. The content of H<sub>2</sub>S does not change during storage in air. S. S. de Fimály</p>																			
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									

COUNTRY : HUNGARY H  
CATEGORY : Chemical Technology. Chemical Products and Their  
Applications. Food Industry.  
ABS. JOUR. : RZhKhim., No 17, 1959, No. 62636  
AUTHOR : Schneider, L; Szorenyi, F.  
INSTITUTE : -  
TITLE : A Rapid Method for the Detection of Falcifications  
in Meat Products by Means of the Precipitation \*  
ORIG. PUB. : Magyar allatorv. lonja, 1957, 12, No 7-9, 236-237

ABSTRACT : It was established that an antigen for the precipi-  
tation reaction may be prepared from an emul-  
sion, consisting of the ground mass of the inves-  
tigated product. Under these conditions the pre-  
cipitation reaction may be accomplished in the  
course of 1-2 hours.

\*Reaction.

Card: 1/1

SZORENYI, Janos

Making national large-scale maps. Geod kart 14 no.4:283-287  
'62.

1. Osztalyvezeto mernok, FTI.

MICHELBERGER, Pal; SZORO, Janos

The Ikarus 66 city motorbus. Jrmu mezo gep 7 no.2:58-65  
'60.

SZORO, Zoltan, dr.

Organization of blood supply in the country. Nepegeszsegugy 35  
no.9:233-234 Sept 54.

1. Kozlemeny az Orszagos Verellato Szolgalattol (igazgato: Sores  
Balint dr.)

(BLOOD BANDS

Hungary, organiz.)

SZORO, Zoltan, dr.

Completion of the territorial tasks of the hospitals in the city  
of Szekesfehervar and the district of Fejer. Nepegeszsegugy 43  
no.11:331-334 N '62.

(PUBLIC HEALTH ADMINISTRATION) (HOSPITAL ADMINISTRATION)

SZOSLAND, J.

The shuttle trajectory, a principal factor in the evaluation of the regulation of a loom. I. (To be contd.) p. 44.

PRZEGLAD WLOKIENNICZY. (Stowarzyszenie Inzynierow i Technikow Przemyslu Wlokienniczego) Lodz, Poland. Vol. 12, no. 1, Jan. 1958.

Monthly List of East European Accessions (EEAI) LC. Vol. 8, no. 7, July 1959.

Uncl.

SZOSLAND, J.

The shuttle trajectory, a principal factor in the evaluation of the regulation of a loom. III. p. 270.

PRZEGLAD WLOKIENNICZY. (Stowarzyszenie Inzynierow i Technikow Przemyslu Sluckienniczego) Lodz, Poland. Vol. 12, no. 5/6, May/June 1958.

Monthly List of East European Accessions (EEAI) IC. Vol. 8, no. 7, July 1959.

Uncl.

SZOSLAND, Janusz, Dr. ing.

Determination of contact zones of the shuttle and the picker during the impact and the braking. Magy textil 15 no.5/6: 220-223 My-Je '63.

1. Muszaki Foiskola, Lodz, Lengyelország.

SZOSLAND, Janusz

Checking and adjusting the shuttle passes in a plain loom.  
Przegl wlokien 17 no. 2:64-71 F '63.

1. Politechnika, Lodz.

SZOSLAND, MARIA.

KRAWCZYK, Zofia; SZOSLAND, Maria

Case of congenital night blindness with a visual modifications  
of pigmentation in the fundus oculi (so-called Oguchi's disease)  
Klin. oczna 24 no.2:139-141 1954.

1. Z Kliniki Chorob Cozu Akademii Medycznej w Lodzi. Kierownik:  
prof. dr med. J. Sobanski.  
(NIGHT BLINDNESS,  
\*Oguchi's dis.)

SOBAN'SKI, Ya. [Sobanski, J.]; SHOSLAND, V. [Szosland, W.]; ZEYDLER, L.  
[Zejdler, L.]; ZHELAVSKA-RYBUS, Ye. [Zelawska-Rybus, E.]

Causes of the development of astereoscopy, its clinical symptoms  
and treatment. Uch.zap. GNII glaz.bol. no.7:203-207 '62.

(MIRA 16:5)

1. Iz kliniki glaznykh bolezney (rukovoditel' - prof. Ya. Soban'ski)  
Meditsinskoy akademii v Lodzi, Pol'skaya Narodnaya Respublika.  
(STRABISMUS)

SOBANSKI, Janusz, prof. dr. med.; SZOSLANDOWA, Wanda; DOMALOWA, Barbara;  
BASZCZYNSKA-ZIELINSKA, Barbara

The causes of "primary" and "secondary" glaucoma. Klin. oczna  
35 no.2:179-181 '65.

1. Z Kliniki Chorob Oczu Akademii Medycznej w Lodzi (Kierownik:  
prof. dr. med. J. Sobanski).

SZOSTAK, E.

P O L .

The Determination of Corrections for the Calculation of Elongation and Spread in the Hot Rolling of Alloy Steels. Z. Wusatowski and E. Szostak. *(Pease Institute Monographs, Hunctura, 1954, 6, 1-12-54).* [In Polish]. In order to adapt Wusatowski's formula for determining the elongation and spread of alloy steels during rolling, 13 types of steels (mainly Cr-Ni) were tested under normal rolling-mill conditions. On the basis of the results obtained the formula was modified by introducing a correction factor  $d$ , the values of which can be read off from the graphs given in the paper. With this modified formula other corrections for the effect of temperature, rolling speed, and the state of roll surfaces are unnecessary.—V. G.

SZOSTAK, Jerzy, inż. (Warszawa)

An interesting building constructed by the Zelbat Industrial Construction Enterprise. Przegl budowl i bud  
mieszk 33 no.3:181-182 Mr'61.

SZOSTAK, Wiktor; SZOSTAK, Lucyna

Effect of diets on the cholesterol level in human sera. Polski tygod.  
lek. 16 no.11:392-396 13 Mr '61.

1. Z II Kliniki Chorob Wewnętrznych Studium Doskonalenia Lekarzy w  
Warszawie; kierownik: doc. dr med. E. Ruzyllo.

(CHOLESTEROL blood) (FATS nutrition & diets)

1985. Rotary drilling technology in the light of the U.S.S.R. experience. L. Szostak. *Nafta (Krakow)*, 1954, 10 (5), 105-9. --Rotary progress depends on  $P$ , axial pressure on drill,  $n$ , revs per minute, and  $q$ , rate of mud flow in 1/minute, as well as qualities of drill, mud, and rock. Each relationship can be represented by a graph sloping steeply at first and later flattening out or even reversing its slope. Bearing in mind the wear of the bit, the most economical values are at the point where these curves flatten out. Furthermore, as  $P$  and  $n$  are increased it becomes necessary to raise  $q$  in order to keep the bit free and cool. The Polish IP is working to adapt these observations to the conditions and equipment available in Poland.

M. S.

SZOSTAK, L.

1990 Results of experiments on ...

3205744  
1238 Practical hints for establishing optimal rotary drilling  
conditions. 1. To start with, the hole is 12.5 m  
The value of the pressure in the drill. No restrictions.  
The value of the pressure in the drill. No restrictions.  
The value of the pressure in the drill. No restrictions.  
The value of the pressure in the drill. No restrictions.